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Who in the World is Trying to Change Their Personality Traits?:

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Volitional Personality Change among College Students in 56 Countries

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4/24/2021

13 Abstract

14 Recent research conducted largely in the US suggests that most people would like to change one
15 or more of their personality traits. Yet almost no research has investigated the degree to which
16 and in what ways volitional personality change (VPC), or individuals' active efforts towards
17 personality change, might be common around the world. Through a custom-built website, 13,278
18 college student participants from 56 countries using 42 different languages reported whether they
19 were currently trying to change their personality and, if so, what they were trying to change.
20 Around the world, 60.40% of participants reported that they are currently trying to change their
21 personalities, with the highest percentage in Thailand (81.91%) and the lowest in Kenya
22 (21.41%). Among those who provide open-ended responses to the aspect of personality they are
23 trying to change, the most common goals were to increase emotional stability (29.73%),
24 conscientiousness (19.71%), extraversion (15.94%), and agreeableness (13.53%). In line with
25 previous research, students who are trying to change *any* personality trait tend to have relatively
26 low levels of emotional stability and happiness. Moreover, those with relatively low levels of
27 socially desirable traits reported attempting to increase what they lacked. These principal
28 findings were generalizable around the world.

29 *Key words:* volitional personality change, cross-cultural, college students

53 Volitional personality change

54 Research on VPC has used varying methodologies, but almost all studies have been
55 conducted entirely within the US. These studies have consistently found that (1) the majority of
56 individuals either currently want to or are trying to increase their emotional stability,
57 conscientiousness and extraversion, (2) attempts and desires to change personality are inversely
58 related to psychological well-being, and (3) current levels of certain personality traits are
59 inversely related to desires or attempts to change them (e.g., individuals low in extraversion
60 aspire to be more extraverted; Baranski et al., 2017, 2019; Hudson & Fraley, 2016, Hudson &
61 Roberts, 2014; Hudson et al., 2020; Stieger et al., 2020; Robinson et al., 2015; Stieger et al.,
62 2020; Quintus et al., & 2017).

63 An early investigation used a modified version of the Big Five Inventory (BFI; John &
64 Srivastava, 1999) and demonstrated that between 87% (for agreeableness) and 97% (for
65 conscientiousness) of US participants reported a desire to change their personality traits and that,
66 in the case of extraversion, emotional stability, and conscientiousness, participants' desire for
67 specific Big Five personality changes were negatively related to current, corresponding levels of
68 these traits (Hudson & Roberts, 2014). These researchers also demonstrated that over the course
69 of 16 weeks, individuals who accomplished their personality change goals experienced increases
70 in well-being (Hudson & Fraley, 2016).

71 Moving beyond research that assessed *desires* for personality change, Baranski et al.,
72 (2017, 2020) asked US participants whether they were *currently trying* to change an aspect of
73 their personalities (i.e., yes or no), and if they answered in the affirmative, asked what they were
74 trying to change. 67.5% of participants reported trying to change an aspect of their personalities;
75 for conscientiousness, extraversion and emotional stability, there was a strong, inverse

76 relationship between individuals' current personality trait levels and their reported change
77 attempts. This conceptual replication of Hudson and Fraley (2016) was successful despite the
78 subtle but important distinction between wanting and actually trying to change one's personality.

79 To our knowledge, only one published study has investigated VPC across multiple
80 countries. Robinson and colleagues (2015) asked participants from Iran, China and the United
81 Kingdom to complete the Big Five Trait-Change Goal Inventory (BF-TGI), which asks
82 participants to rate whether and in what direction they want to change each of the Big Five traits
83 (i.e., extraversion, agreeableness, conscientiousness, neuroticism and openness to experience).
84 Participants in Iran had consistently higher proportions of trait change goals in the socially
85 desirable direction (e.g., increases in extraversion, decreases in neuroticism) relative to China
86 and the UK. Also, researchers reported that overall, participants indicated a goal to decrease
87 levels of neuroticism more than any other trait (Robinson et al., 2015).

88 While large-scale, cross-cultural investigations of VPC are rare, evidence elsewhere
89 demonstrates cross-cultural similarities in the pursuit of self-improvement. For instance, self-
90 direction (i.e., independent thought, creating, exploring) consistently ranked high in importance
91 across more than 60 countries (Deci & Ryan, 2008; Schwartz & Bardi, 2001; Schwartz et al.,
92 2001; for a cross-cultural review, see Ryan & Deci, 2000). Similarly, Grouzet and colleagues
93 (2005) found that the goals to feel competent and autonomous were similarly common across 15
94 countries. These tendencies towards self-improvement were particularly pronounced among
95 college students. Indeed, previous research demonstrates that compared to older individuals,
96 college students and college-aged individuals have a higher percentage of goals with a "gain
97 orientation" (Heckhausen, 1997; Penningroth & Scott, 2012).

98 **The relationship between VPC and individual differences**

99 Key components of self-discrepancy theory (SDT) may help build a theoretical
100 foundation in explaining why particular individual difference variables are relevant in
101 distinguishing between those who are and are not trying to change their personality traits
102 (Higgins, 1987). SDT posits that discrepancies between the ideal and actual self are associated
103 with lower levels of happiness (Higgins, 1987). Thus, perhaps the most theoretically relevant
104 individual differences to VPC are those that signal to the individual that there is a discrepancy
105 between their ideal and actual self, and thus the need for personality change. For example,
106 individuals with low levels of happiness and high levels of anxiety or depression may be
107 motivated to shrink the discrepancy between their ideal and actual selves and in the process,
108 alleviate these negative traits and emotions by changing the personality traits they perceive as
109 contributing to their unhappiness, anxiety, and depression (DeFruyt et al., 2006).

110 Previous research suggests several other individual difference variables that may be
111 associated with attempts to change one's personality. For instance, individuals high in narcissism
112 tend to have exaggerated egotism, and thus might not see any need for change (Back et al.,
113 2013). Previous research also demonstrates that individuals high in dispositional optimism tend
114 to take an active approach to personal goal attainment (Carver & Scheier, 2002), and might be
115 similarly willing to work towards specific personality change goals. Conversely, optimists
116 generally view their present circumstances and future personal outcomes as positive (Busseri et
117 al., 2009) and thus might not see any reason to change anything about themselves.

118 Other personality traits might also be relevant for VPC. Individuals high in
119 conscientiousness, for instance, might take responsibility in improving their circumstances and in
120 doing so seek to make active efforts towards their personality change (Soto et al., 2017).
121 Likewise, previous research has shown openness to experience to relate to self-exploration

122 (McAdams et al., 2012), so we may expect individuals high in openness to experience to self-
123 reflect upon the aspects of themselves that they want to change and then explore creative routes
124 towards change. Finally, we may expect religiosity to play a role in whether individuals attempt
125 to change their personalities. Specifically, religious individuals may consider self-improvement
126 as a means to fulfill self-actualization (Watson et al., 1995).

127 **The Current Project**

128 The current project adds to the literature in several key-ways. First, this study is the first
129 to assess the proportion of college students across a large set of countries who are currently
130 trying to change their personality traits. While this aspect of the study is strictly exploratory, it
131 lays the necessary foundation for future confirmatory research that assesses cross-country
132 variation in attempting and achieving personality change.

133 In particular, the current project seeks to establish VPC findings that are generalizable
134 beyond the US. In the emerging field of VPC, across studies with varying methodologies, the
135 majority of participants sampled have indicated a desire or current attempt to change at least one
136 aspect of their personalities. Moreover, there has been a near uniform tendency for current levels
137 of personality traits to be negatively related to desires or attempts to change corresponding traits.
138 The current project is among the first to systematically test the generalizability of these robust
139 and consistent findings outside the US, and the first to do so across over 3 dozen countries. This
140 contribution is particularly important given the field's reliance on W.E.I.R.D samples (white,
141 educated, industrialized, rich, democratic, Heine et al., 2006) and the current push to extend our
142 understanding of individuals outside these populations.

143 Finally, the current project seeks to extend understanding of VPC beyond global
144 personality traits, to facets of personality. Specifically, we utilized the facet structure defined by

145 the Big Five Inventory 2 (BFI-2; Soto & John, 2017). This structure defines each of the Big Five
146 traits along three facets (e.g., extraversion is defined by facets energy level, sociability, and
147 assertiveness), offering more conceptual specificity to measurement. Importantly, while each
148 trait's facets are inter-correlated, they are also meaningfully different and show distinctive
149 relations with self-report and peer-report external criteria (Soto & John, 2017).

150 We assess VPC using a method that combines the use of idiographic, open-ended
151 responses with nomothetic, quantitative coding of the responses. This nomothetic-idiographic
152 approach is especially suitable for measuring volitional personality change for two reasons. First,
153 asking participants to report volitional personality change goals in their own words prompts them
154 to report goals that are readily recalled and thus particularly salient to individuals, especially
155 those that stand up against other more immediately gratifying personal goals (e.g., losing weight,
156 making more money). Indeed, a recent study found that when prompted to list their top ten
157 personal goals, the majority of individuals listed at least one personality change goal (Miller et
158 al., 2019). Second, the idiographic-nomothetic approach limits the risk of demand characteristics.
159 Likert-type personality change goal inventories may prompt participants to endorse several items
160 that are socially desirable yet may not all receive concerted effort towards change in the desired
161 direction from the individual. Thus, in contrast with idiographic-nomothetic methods, Likert-
162 type rating methods may over-estimate volitional personality change goal pursuit.

163 Going beyond previous research in these ways, the current project evaluates VPC by
164 college students across 56 countries. This investigation is exploratory, but is generally guided by
165 four research questions:

- 166 1. What proportion of college students around the world and in various countries are
167 currently trying to change their personality traits?

Table 1
International sample demographic information

Country	Total <i>N</i>	Female %	Mean Age (SD)
Argentina	140	78.57	24.28 (5.66)
Australia	197	75.63	19.71 (3.48)
Austria	113	81.42	21.26 (2.37)
Bolivia	135	57.78	21.01 (2.16)
Brazil	309	72.17	23.68 (7.10)
Bulgaria	150	70.67	25.05 (6.48)
Canada	302	79.14	21.86 (3.98)
Chile	384	66.41	21.45 (3.08)
China	426	48.59	22.64 (4.39)
Colombia	181	74.03	21.68 (4.16)
Croatia	218	64.68	21.46 (1.70)
Czech Republic	193	80.83	22.65 (4.82)
Denmark	244	79.92	22.94 (5.12)
Estonia	293	83.96	25.88 (7.67)
France	228	85.53	22.60 (6.31)
Georgia	140	80.00	20.29 (1.79)
Germany	454	75.11	24.36 (6.39)
Hong Kong	142	59.15	19.00 (1.27)
Hungary	175	60.57	21.71 (1.97)
India	221	49.77	22.38 (4.65)
Israel	171	61.40	25.35 (4.22)
Italy	717	64.57	21.86 (3.73)
Japan	242	61.98	22.58 (4.83)
Jordan	141	80.85	19.87 (2.14)
Kenya	139	65.47	21.17 (1.90)
Latvia	169	82.84	24.87 (6.09)
Lithuania	144	78.47	20.26 (1.75)
Macedonia	54	74.07	21.22 (1.73)
Malaysia	228	71.05	21.53 (2.80)
Mexico	169	68.05	20.66 (2.18)
Netherlands	300	81.33	20.13 (3.03)
New Zealand	129	86.05	19.19 (4.43)
Nigeria	134	33.58	24.75 (5.67)
Norway	159	74.21	23.89 (5.04)
Pakistan	114	50.00	20.61 (2.73)
Palestine	295	83.39	22.17 (4.81)
Philippines	331	69.18	19.71 (2.22)
Poland	234	83.33	22.35 (5.32)
Portugal	156	87.82	21.66 (5.84)
Romania	177	57.06	22.84 (5.57)
Russia	158	78.48	21.92 (4.71)

Serbia	184	86.41	19.73 (1.25)
Singapore	136	77.94	20.93 (2.13)
Slovakia	148	69.59	22.41 (2.71)
Slovenia	122	57.38	20.43 (1.54)
South Korea	281	58.36	22.35 (2.25)
Spain	419	85.20	19.73 (3.47)
Sweden	126	72.22	*
Switzerland	447	84.34	22.28 (4.89)
Taiwan	162	76.54	19.71 (1.35)
Thailand	188	80.32	19.24 (1.14)
Turkey	153	62.75	20.76 (3.52)
Ukraine	243	77.37	20.60 (1.90)
United Kingdom	136	88.97	25.64 (8.08)
United States	1360	67.72	19.85 (3.11)
Vietnam	167	77.25	19.05 (1.33)
World Sample	13,278	71.82	21.69 (4.52)

Note. *Due to confidentiality constraints, Sweden does not have age data

185

186 Procedure

187 Each participant received a unique participant ID from a local faculty collaborator and
 188 was directed to the study's custom-built website (ispstudy.ucr.edu). They completed informed
 189 consent followed by a series of measures assessing their situational experiences, daily behavior,
 190 volitional personality change, and ratings of personality traits and other individual differences
 191 (e.g., subjective happiness, dispositional optimism). Upon completing the survey, participants
 192 had the opportunity to receive feedback on their trait levels based on the personality measure
 193 included.

194 Materials translation procedure

195 The content of the website (e.g., consent form, instructions, survey questions) was
 196 translated into 42 languages by local collaborators, who are all psychology researchers, and
 197 independently back-translated to English. After reviewing the back-translated version of the
 198 materials, the ISP project coordinators resolved any discrepancies through consultation with the
 199 local collaborators.

200 **Measures**

201 The International Situations Project is a large study that seeks to explore variation and
202 similarity of situational experience and individual differences around the world (Baranski et al.,
203 in press; Lee et al., in press; see <https://osf.io/yv2nq/> for a complete list of previous publications)
204 ⁴. The measures described below are the ones relevant to the current analyses and are unique to
205 this article.

206 **Volitional personality change (VPC).** Participants responded “yes” or “no” to “Is there
207 an aspect of your personality that you’re currently trying to change?” If they answered in the
208 affirmative, a box opened in which they were asked to report the aspects of their personality they
209 were trying to change, an open-ended format akin to methods used by Baranski et al., 2017. See
210 below for a detailed description of the procedure for coding these open-ended VPC responses.

211 **Personality traits and other individual differences.** Several potentially relevant
212 personality traits and individual differences were also analyzed for this study. As this study was
213 exploratory, we cast a large net in our assessment of the relationship between VPC and
214 individual differences.

215 Personality traits were measured using the 60-item Big Five Inventory 2 (BFI-2; Soto &
216 John, 2017) in which each trait is represented by three facets (four items each). The trait and
217 facets are: extraversion (sociality, assertiveness, energy), agreeableness (trust, respect,
218 compassion), conscientiousness (productiveness, responsibility, organization), negative
219 emotionality (anxiety, depression, emotional volatility), and openness mindedness (intellectual
220 curiosity, creativity, aesthetic appreciation). Participants responded to each item (e.g., “I am
221 someone who is outgoing”) on a five-point scale (1 = “Disagree strongly”; 5 = “Agree
222 strongly”).

⁴ See the complete list of International Situations Project (ISP) measures at <https://osf.io/enrd4/>.

223 Happiness was measured using the Subjective Happiness Scale (SHS; Lyubomirsky &
224 Lepper, 1999) and the Interpersonal Happiness Scale (IHS; Hitokoto & Uchida, 2015). The SHS
225 is a 4-item scale (e.g., “In general, I consider myself”; 1 = “Not of very happy person” to 7 = “A
226 very happy person”) and the ISH is a 9-item scale (e.g., “I believe that I and those around me are
227 happy”; 1 = “Strongly disagree” to 5 = “Strongly agree”).

228 Participants also completed the 6-item Life Orientation Test (LOT-R; Scheirer, 1995) to
229 assess dispositional optimism (e.g., “In uncertain times, I usually expect the best”; 1 = “Strongly
230 disagree” to 5 = “Strongly agree”), the 10-item Honesty/Humility scale (e.g., “I wouldn’t use
231 flattery to get a raise or promotion at work, even if I thought it would succeed”; 1 = “Strongly
232 disagree” to 5 = “Strongly agree”) of the HEXACO measure of personality traits (facets:
233 sincerity, fairness, greed, modesty; Ashton, & Lee, 2009), and the Narcissistic Admiration and
234 Rivalry Questionnaire (NARQ; Back et al., 2013) (“I deserve to be seen as a great person”; 1 =
235 “Strongly disagree” to 5 = “Strongly agree”).

236 Across all 78 separate data collection sites, 62% of the omega reliability coefficients were
237 above .70 (mean $\Omega = .73$; SD = .11; range = .27 - .95), indicating homogenous internal
238 consistency across countries. See Supplementary materials at osf.io/enrd4 for means, SDs,
239 intercorrelations, and Omega reliability coefficient for each measure.

240 **Coding of volitional personality change intentions**

241 As stated above, participants reported whether they were currently trying to change their
242 personalities. For participants who answered ‘yes’, research assistants coded their open-ended
243 answers to the following question, “What aspect of your personality are you currently trying to
244 change?” using 44 binary categories, referring to attempts to increase or decrease each of the Big

245 Five personality traits and their respective facets (40 categories total), as well as increases or
246 decreases of honesty and humility. This method was adapted from Baranski et al., 2017.

247 Three US research assistants independently coded the entirety of participants' responses
248 (translated to English from 41 languages by local collaborators) using a two-step process. In Step
249 1, research assistants coded each response along 12 mutually exclusive categories. Specifically,
250 they determined whether the participant's response indicated an attempt to increase or decrease
251 one of Big Five traits or honesty/humility (example of a response coded as indicating a desire to
252 increase extraversion: "shyness and being unsocial"). In Step 2, the research assistants then
253 coded which of three facets the participant's response best aligned (example of a response coded
254 as indicating an attempt to increase sociability facet: "Poor active communication").

255 Of the 8,204 participants who indicated that they were currently trying to change some
256 aspect of their personalities, 170 did not provide a response when asked to report exactly what
257 they were trying to change. 164 responses were missing due to coding error. For the remaining
258 7,863 participants, we used majority rule to determine the final response ratings (we marked the
259 code a 'hit' if 2 out of 3 coders indicated the response fell into the category, otherwise the
260 response was treated as a 'miss'). If a participant listed more than one VPC intention, only the
261 first one listed was coded⁵. Categories representing attempts to increase or decrease the Big Five
262 personality traits plus honesty and humility captured 88.39% of participants' responses; the
263 remaining responses were either too vague to represent a single category (e.g., "many different
264 things"), were unintelligible or left blank (e.g., "asdfklj"), or expressed desires to change
265 physically or resolve an addiction. Since coders rated each response as adhering to one of 12 trait

⁵ A relatively small subset of participants reported more than one personality change goal. To ensure analyses were consistent across participants, we only included the first one listed.

266 categories (step 1), we calculated an estimate of agreement among raters for this single ‘trait
 267 category’ variable. Inter-rater agreement was good ($\kappa = .68$).

268 See Table 2 for example responses for each trait category and osf.io/enrd4 for data and R
 269 script used for all analyses reported below.

Table 2
Participants’ responses of VPC content categories

Category	Example responses
Inc Extraversion	
Sociability	<ul style="list-style-type: none"> ● shyness ● trying to be more outgoing
Energy	<ul style="list-style-type: none"> ● not enthusiastic; too quiet ● relative bored in character
Assertiveness	<ul style="list-style-type: none"> ● To manage to impose me and my points of view a bit more at work ● More confidence when expressing myself and making decisions
Inc Agreeableness	
Compassion	<ul style="list-style-type: none"> ● Putting people before myself ● selfishness, stronger sense of self
Trust	<ul style="list-style-type: none"> ● Trusting others ● Holding grudges
Respect	<ul style="list-style-type: none"> ● Gossiping ● I'd like to be better towards others, and not bitter/sarcastic for no reason
Inc Conscientiousness	
Organization	<ul style="list-style-type: none"> ● Disorganized behavior ● Careless in time management
Productiveness	<ul style="list-style-type: none"> ● Motivation to study ● Trying to be more productive, procrastinating less
Responsibility	<ul style="list-style-type: none"> ● Discipline ● My maturity
Inc Emotional Stability	
Dec Anxiety	<ul style="list-style-type: none"> ● Trying to be more relaxed when it comes to doing things. ● My more emotional/neurotic tendency to get overwhelmed in situations resulting in anxiety
Dec Depression	<ul style="list-style-type: none"> ● My self-esteem: becoming more confident and self-assured ● Wish to be more optimistic
Dec Emotional Volatility	<ul style="list-style-type: none"> ● Being less sensitive ● I need to change my emotional personality which may easily get upset when challenges are coming.
Inc Openness	

Creativity	<ul style="list-style-type: none"> ● To depersonalize the physical from the mental ● Dynamism
Aesthetic Appreciation	<ul style="list-style-type: none"> ● Adventurousness ● Look at the world
Intellectual Curiosity	<ul style="list-style-type: none"> ● Brainless
Inc Honesty	<ul style="list-style-type: none"> ● NA
Inc Humility	<ul style="list-style-type: none"> ● My egocentricity. ● Too much pride and little acceptance of criticism
Dec Agreeableness	
Compassion	<ul style="list-style-type: none"> ● Weak and incapable of saying no ● Playful and paid too much attention about others easily
Trust	<ul style="list-style-type: none"> ● Naivety ● I am trying to be more observant/cautious in relationship with others.
Respect	<ul style="list-style-type: none"> ● Straightforwardness ● Be possessive, demanding, and dependent
Dec Conscientiousness	
Productiveness	<ul style="list-style-type: none"> ● Being too focused on academics that I forgot time for myself and others
Responsibility	<ul style="list-style-type: none"> ● To not overthink everything ● Overanalyzing things and wanting to control everything
Organization	<ul style="list-style-type: none"> ● To not be such a perfectionist ● Constant planning
Dec Extraversion	
Sociability	<ul style="list-style-type: none"> ● Being too extroverted. ● Clinginess
Energy	<ul style="list-style-type: none"> ● The loudness of my personality seems to bug some people I live with ● When I am excited I am really loud so I am trying to be little bit quit.
Assertiveness	<ul style="list-style-type: none"> ● too might ● overbearing ● I am trying to cut down on interrupting people while they are talking and on using crutch words
Dec Emotional Stability	
Inc Anxiety	<ul style="list-style-type: none"> ● NA
Inc Depression	<ul style="list-style-type: none"> ● Being too carefree and happy ● to be too much optimistic ● Over optimism
Inc Emotional Volatility	<ul style="list-style-type: none"> ● I want to be more emotional. ● Suppression and no expression of emotions
Dec Openness	
Creativity	<ul style="list-style-type: none"> ● Being more rational

Aesthetic	
Appreciation	● NA
Intellectual	
Curiosity	● NA
<hr/>	
Dec Honesty	● NA
Dec Humility	● NA
Physical Change	● Too weak and delicate
	● Sleeping late at night
Resolving Addiction	● Drinking
	● Drug use (marijuana)
Other	● All of it
	● Negative

Note. Inc = Increase, Dec = Decrease; NA indicates that there were no agreed upon responses that fell in to the category.

270

271

Analysis

272

273

Given the substantial discrepancy in sample size across male and female participants, as

274

well as the consistent tendency for female participants to report VPC at higher rates than their

275

male counterparts, all analyses reported below are weighted equally across gender.

276

To supplement the bi-variate correlations reported in the text, we ran a series of logistic

277

multilevel models to understand the relationship between current traits and VPC at the individual

278

level accounting for nesting at the country level. Specifically, we ran the models as specified

279

below for the relationship between the dichotomous VPC variable (i.e., yes or no VPC) and 22

280

current traits (and facets) (e.g., current levels of extraversion predicting VPC).

281

We used the *lme4* R package to estimate the intercepts and slopes for VPC using

282

individual predictors of current personality trait levels accounting for country level variation. For

283

the Level 1 model, VPC was modeled as a function of current traits on the individual level:

284

1. Level 1 Model: $\text{logit}(\text{VPC}_{ij}) = b_{0j} + b_{1j}\text{Current trait} + r_{ij}$

285

In the Level 2 Model, intercepts and slopes were allowed to differ across countries:

286

2. Level 2 Model:

287 $b_{0j} = y_{00} + u_{0j}$

288 $b_{1j} = y_{10} + u_{1j}$

289 The entire mixed-model is specified as followed:

290 3. Mixed Model: $VPC_{ij} = \gamma_{00} + \gamma_{10}(\text{Current trait}) + u_{0j} + u_{1j}(\text{Current trait}) + r_{ij}$

291 To assess whether there was significant variation across countries, we ran a series of
292 model fit comparisons to assess the Chi-square difference between a model which fixes all
293 current trait and VPC trait regression slopes to be equal across countries (Level 1 Model) and a
294 model which allows these relationships to vary by country (Level 2 Model; i.e., the addition of
295 u_{1j} term). These model fit comparisons reveal that for all current trait – dichotomous VPC
296 relationships, the fixed sloped model fitted the data better than the random sloped model,
297 indicating that there was no significant variation across countries in how well an individual's
298 current personality trait level predicted whether they were trying to change any aspect of their
299 personalities.

300 **Results**

301 **What proportion of college students around the world and across countries are currently** 302 **trying to change their personality traits?**

303 The majority (60.40%) of college students around the world indicated that they were
304 currently trying to change at least one aspect of their personalities. Countries with the highest
305 percentage of people attempting VPC included Thailand (81.91%), Russia (80.84%), Brazil
306 (78.87%) and Malaysia (77.64%), whereas Kenya (21.41%), Israel (28.21%), Slovakia (43.24%),
307 Hong Kong (46.48%), Turkey (46.39%), and the United States (48.53%) were among the lowest.

308 See Table 3 for a complete list of VPC proportions by gender and country and Figure 1 for a
 309 visualization of the variation of country-level VPC percentage around the world.⁶

Table 3

Percentage of individuals indicating an attempt to change an aspect of their personalities by country and gender (sorted in descending order of All %)

Country	Female %	Male %	All %†
Thailand	85.43	78.38	81.91
Russia	82.26	79.41	80.84
Brazil	79.82	77.91	78.87
Malaysia	73.46	81.82	77.64
Georgia	79.46	71.43	75.45
India*	80.91	69.37	75.14
Vietnam	79.07	65.79	72.43
Argentina	80.91	63.33	72.12
Czech Republic	70.51	72.97	71.74
Estonia	74.80	68.09	71.45
Sweden	75.82	65.71	70.77
Portugal	70.80	68.42	69.61
Bolivia	75.64	63.16	69.40
South Korea	72.56	65.81	69.19
Croatia	71.63	66.23	68.93
Serbia	65.41	72.00	68.71
United Kingdom	63.64	73.33	68.49
Norway	63.56	73.17	68.37
Bulgaria	70.75	65.91	68.33
France	66.15	69.70	67.93
Hungary	63.21	69.57	66.39
Japan	69.33	59.78	64.56
New Zealand	56.76	72.22	64.49
Austria	71.74	57.14	64.44
Latvia	69.29	58.62	63.96
Philippines	62.01	65.69	63.85
Ukraine*	72.87	54.55	63.71
Singapore	66.98	60.00	63.49
Switzerland	63.93	62.86	63.40
Denmark	64.62	61.22	62.92
Germany	60.70	64.60	62.65
Australia	71.81	52.08	61.95
Canada	60.67	61.90	61.29
Spain	65.83	56.45	61.14
Nigeria	62.22	59.55	60.89

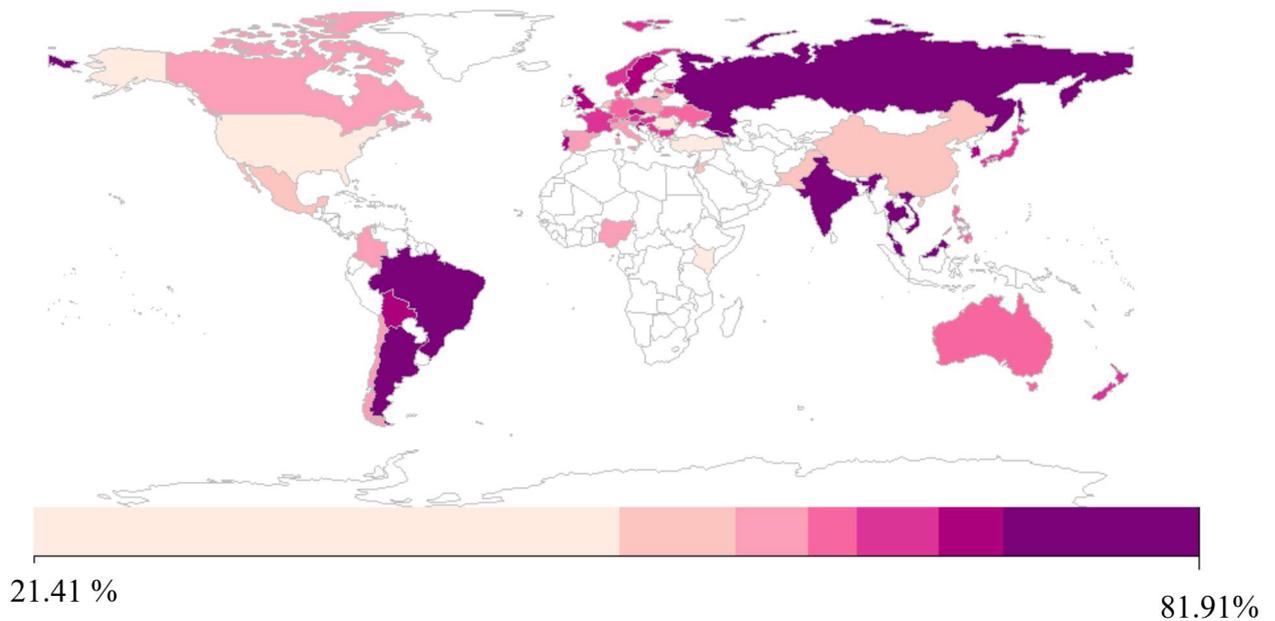
⁶ In an effort to help explain cross-country variation in VPC, we ran additional correlational analyses between countries' VPC proportion and several existing country-level variables (e.g., GDP per capita, population density). Please see these analyses in our supplemental materials: osf.io/enrd4.

Italy*	69.11	51.18	60.15
Chile	63.53	56.59	60.06
Colombia	60.45	57.45	58.95
Slovenia*	71.43	46.15	58.79
Poland	60.00	56.41	58.21
Pakistan	59.65	54.39	57.02
Taiwan	63.71	50.00	56.86
Palestine	54.07	59.18	56.63
Mexico	60.87	51.85	56.36
China	57.49	52.05	54.77
Netherlands*	46.31	62.50	54.41
Jordan	60.53	44.44	52.49
Lithuania*	61.95	41.94	51.95
Macedonia	45.00	57.14	51.07
Romania	47.52	50.00	48.76
United States	50.27	44.87	47.57
Turkey	54.17	38.60	46.39
Hong Kong	48.81	43.10	45.96
Slovakia	39.81	46.67	43.24
Israel	27.62	28.79	28.21
Kenya	21.98	20.83	21.41
Average (M of %)	64.09 (<i>SD</i> = 12.04)	59.68 (<i>SD</i> = 12.06)	61.89 (<i>SD</i> = 11.69)
World	63.56	57.23	60.40

Note. Across countries, female participants reported VPC significantly more than their male counterparts, ($t(6,674) = 6.61, p < .001$). * Countries with significant gender differences. † Percentages are balanced across gender.

310

311



312

313 *Figure 1.* Heat map of percentage of college students attempting volitional personality change

314

315 **What personality traits and other individual differences are associated with whether one is**
316 **trying to change *any* personality trait?**

317 To test the generalizability of research addressing *who* is currently attempting or desiring
318 personality change, we next assessed which personality traits and other individual differences are
319 associated with participants' reported attempts to change *any* aspect of their personality traits
320 (i.e., 'yes' when asked if they are currently trying to change an aspect of their personalities). To
321 do so, we ran a series of correlations with their current levels of the Big Five traits and
322 honesty/humility (plus their facets), subjective and interdependent happiness, dispositional
323 optimism, narcissism, and religiosity.

Table 4

Correlations between any attempt to change one's personality traits and other individual differences and analysis of variation across countries.

	<i>r</i> [99% CI]	ΔX^2 (<i>p</i> -value)
Extraversion	-.07 [-.11, -.02]	4.67 (.22)
Sociability	-.06 [-.11, -.02]	3.91 (.41)
Assertiveness	-.05 [-.10, -.01]	3.24 (.20)
Energy	-.04 [-.08, .01]	4.79 (.11)
Agreeableness	-.03 [-.07, .02]	0.59 (.76)
Compassion	.03 [-.02, .07]	1.09 (.60)
Respect	-.01 [-.06, .03]	0.11 (.95)
Trust	-.06 [-.11, -.02]	2.60 (.37)
Conscientiousness	-.12 [-.17, -.08]	2.55 (.30)
Organization	-.09 [-.13, -.05]	2.79 (.37)
Productiveness	-.12 [-.16, -.07]	2.45 (.40)
Responsibility	-.11 [-.15, -.06]	2.90 (.36)
Negative Emotion	.24 [.20, .29]	1.60 (.51)
Anxiety	.22 [.18, .26]	0.77 (.71)
Depression	.22 [.17, .26]	2.36 (.41)
Emotional volatility	.18 [.14, .23]	1.93 (.53)
Openness	.14 [.10, .18]	0.23 (.89)
Intellectual curiosity	.15 [.11, .19]	7.07 (.04)
Aesthetic appreciation	.14 [.09, .18]	0.96 (.69)
Creativity	.04 [.00, .09]	1.90 (.49)
Honesty	.03 [-.02, .07]	4.12 (.21)
Sincerity	.01 [-.04, .05]	2.44 (.30)
Fairness	.03 [-.01, .07]	2.61 (.31)
Greed	.01 [-.04, .05]	1.95 (.49)
Modesty	.03 [-.02, .07]	11.54 (.03)
Subjective Happiness	-.17 [-.21, -.12]	9.70 (.02)
Interdependent Happiness	-.19 [-.24, -.15]	4.02 (.14)
Optimism	-.07 [-.11, -.02]	3.51 (.18)
Narcissism	-.01 [-.06, .03]	3.96 (.14)
Religiosity	-.02 [-.06, .03]	14.48 (<.001)

Note. Significant ΔX^2 represents significant variability in the strength of current trait and VPC trait relationships. Correlation coefficients $> .03$ are significant at the .001 level. $N = 13,278$

324
 325 In line with the overarching goal of the current study, we sought to assess which of these
 326 relationships are robust and consistent across individuals from an array of cultural backgrounds.
 327 When participants are treated as one 'world sample' VPC was positively related to negative
 328 emotionality ($r = .24$, 99% CI [.20, .29]), along with all three of its facets and negatively related
 329 to both subjective happiness ($r = -.17$, [-.21, -.12]) and interdependent happiness ($r = -.19$, [-.24,

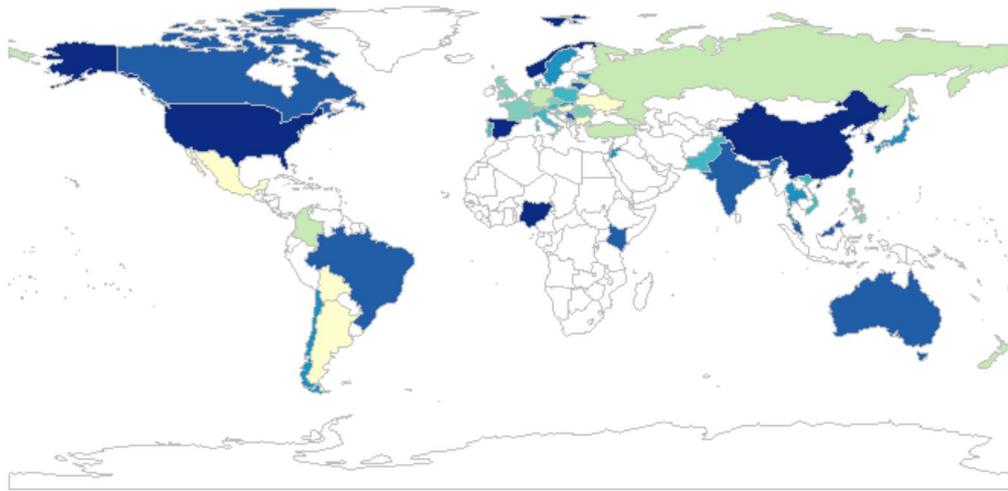
330 -.15]). Finally, in line with our expectations, there was a moderate relationship between VPC and
331 the intellectual curiosity ($r = .15, [.11, .19]$) and aesthetic appreciation facets of openness ($r =$
332 $.14, [.09, .18]$) all r 's in this paragraph are $p < .001$). Against our expectations, conscientiousness,
333 narcissism and all other remaining traits were unrelated to VPC. Importantly, virtually none of
334 the relationships between current personality traits and VPC varied significantly in strength
335 across countries at the $p < .001$ level (see Table 4).

336 One interesting exception arose to these otherwise consistent patterns. Converse to our
337 expectations, religiosity was virtually unrelated to VPC when all participants were treated as one
338 world sample; however, this relationship varied significantly across countries ($\Delta X^2 = 14.48, p <$
339 $.001$, Table 4). Indeed, VPC was positively related to religiosity in countries such as Slovenia,
340 India, and Malaysia, and negatively related to religiosity in countries such as Macedonia, New
341 Zealand, and Latvia. See the Supplementary Materials at osf.io/enrd4 for VPC-individual
342 difference correlations for each country.

343 **What specific traits are college students around the world currently trying to change?**

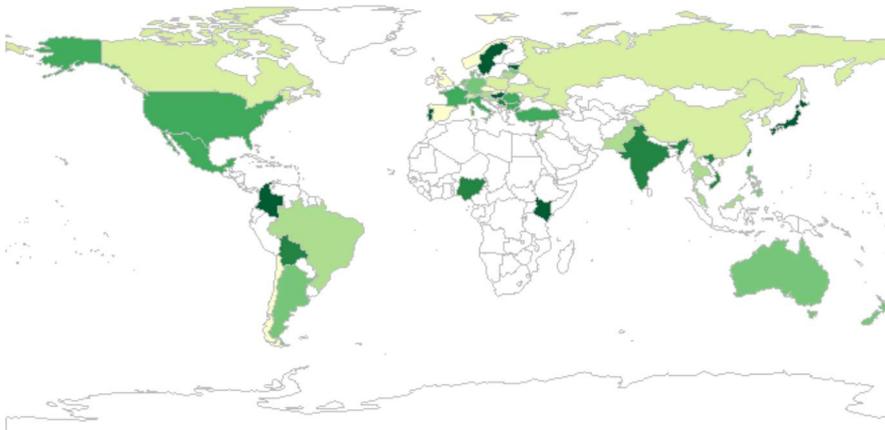
344 Across all 56 countries, among students reporting attempted personality change, the most
345 commonly reported personality change attempts were to increase levels of emotional stability
346 (29.73%), conscientiousness (19.71%), extraversion (15.94%) and agreeableness (13.53%) (see
347 Figures 2a-2d for heat map visualizations of country-level variation for attempts to change each
348 trait). Attempts to increase levels of openness, honesty or humility, and attempts to decrease any
349 trait were rare (i.e., less than 2% of responses; see the Supplementary Materials at osf.io/enrd4).
350 For the sake of brevity and relevance, subsequent analyses will only relate to VPC attempts to
351 increase extraversion, agreeableness conscientiousness, and emotional stability.

352



353

354 *Figure 2a.* Heat map of percentage of college students, among those who are trying to change
 355 their personality, who are currently trying to **increase Extraversion** across countries.

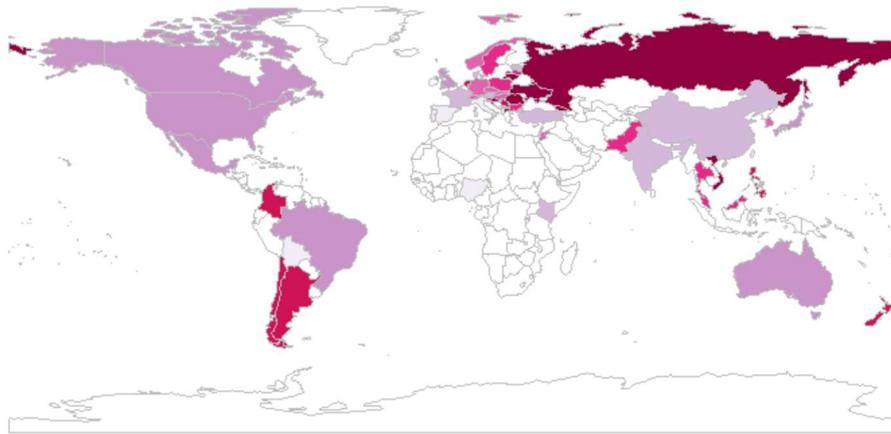


356

357 *Figure 2b.* Heat map of percentage of college students, among those who are trying to change
 358 their personality, who are currently trying to **increase Agreeableness** across countries.

359

360

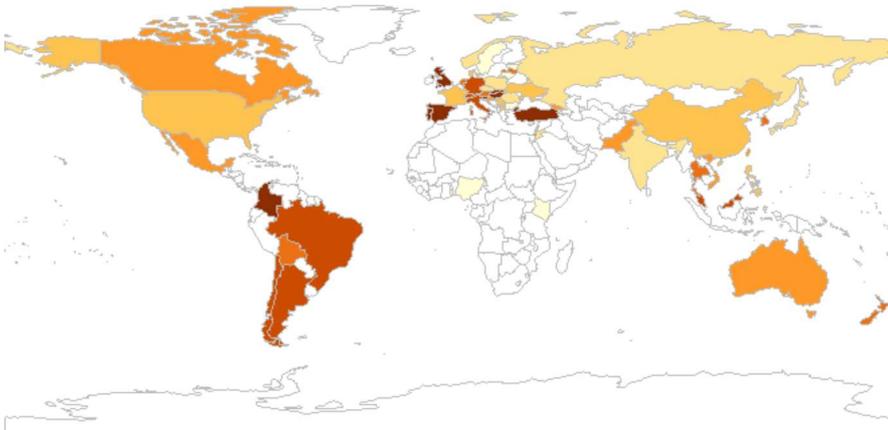


361 6.5%

37.10%

362 *Figure 2c.* Heat map of percentage of college students, among those who are trying to change
363 their personality, who are currently trying to **increase Conscientiousness** across countries.

364



365 14.70%

54.30%

366 *Figure 2d.* Heat map of percentage of college students, among those who are trying to change
367 their personality, who are currently trying to **increase Emotional Stability** across countries.

368

369 Facet level assessment of VPC content revealed a more precise understanding of exactly
 370 what college students are trying to change about themselves. For instance, VPC to increase
 371 conscientiousness was largely driven by attempts to increase levels of productiveness (54.38% of
 372 those with VPC to increase conscientiousness), and VPC to increase levels of extraversion was
 373 largely driven by attempts to increase sociability (78.53% of those with VPC to increase
 374 extraversion). In contrast, VPC to increase levels of emotional stability was fairly well-
 375 distributed among its facets of anxiety, depression and emotional volatility (25.65%, 37.03%,
 376 and 30.12%, respectively, of those with VPC to increase emotional stability). See Table 5 for the
 377 percentages of responses that fell into categories with the top 10 highest percentages overall.

Table 5

VPC percentage for the World sample (facets listed as % within respective trait)

	% VPC
Inc Extraversion	15.94
Inc Sociability	78.53
Inc Assertiveness	12.36
Inc Energy	2.93
Inc Agreeableness	13.53
Inc Compassion	53.50
Inc Trust	10.32
Inc Respect	13.60
Inc Conscientiousness	19.71
Inc Organization	11.86
Inc Productiveness	54.38
Inc Responsibility	27.14
Inc Emotional Stability	29.73
Dec Anxiety	25.65
Dec Depression	37.03
Dec Emotional Volatility	30.12
Inc Openness	1.32
Inc Creativity	12.60
Inc Aesthetic Appreciation	33.06
Inc Intellectual Curiosity	59.10

Note. Inc = increase, Dec = decrease, $n = 7,863$ (i.e., those who reported an attempt to change their personalities). With the exception of increased openness, we did not include VPC categories in which less than 5% of responses fell into categories. Facet percentages that do not add up to 100% within each trait indicate that coders did not agree what facet aligned with participants' VPC open-ended responses.

378 **How are attempts to change a *specific* personality trait related to current personality**
379 **traits?**

380 To test the generalizability and robustness of the common VPC finding that desires or
381 attempts to change a particular personality trait are inversely related to current, corresponding
382 traits, we ran a series of correlations testing the relationship between corresponding and non-
383 corresponding current trait and VPC trait pairs. To extend previous VPC research further, we ran
384 these correlations on both trait and facet levels.

385 In line with research limited to US college students (Hudson & Fraley, 2016), when our
386 student participants were treated as one world sample, current personality traits were consistently
387 related to attempts to change corresponding traits in the expected direction. Also, as with
388 previous analyses, looking at these relationships on the facet levels provides a more
389 comprehensive assessment. For extraversion, there were strong, negative relationships between
390 the VPC to increase extraversion and current levels of extraversion ($r = -.23$, 99% CI [-.29, -
391 .18]), and all three of its facets⁷. Given the large proportion of VPC responses that were coded as
392 sociability, it is unsurprising that this relationship were all driven by VPC to increase sociability
393 ($r = -.22$, [-.28, -.17]. With the exception of the facet responsibility, strong, negative correlations
394 arose between VPC to increase conscientiousness and its facets and current traits and facets
395 levels. The strongest of these relationships were between corresponding current trait/facet and
396 VPC trait/facet pairs. For instance, while the intention to increase levels of productiveness was
397 related to current levels of conscientiousness and all three of its facets, the strongest of these
398 relationships was between the attempt to increase levels of productiveness and current levels of
399 productiveness ($r = -.16$; [-.21, -.10]). The same pattern was observed for negative emotionality
400 and its facets (i.e., anxiety, depression, and emotional volatility).

⁷ Given the large sample size, $r_s > .05$ are significant at the .001 level.

401 Importantly, relationships between corresponding current trait/facet and VPC trait/facet
 402 pairs were stronger relative to non-corresponding pairs. As an interesting exception, stronger
 403 relationships between VPC to increase agreeableness and low levels of extraversion emerged
 404 than did corresponding relationships between VPC to increase agreeableness and current
 405 agreeableness. It may be the case that the ways in which researchers measure agreeableness and
 406 extraversion is different to how college students conceptualize attempts to change these traits.
 407 That is, participants may express attempts to be more compassionate or trusting in an effort to
 408 make more friends and thus to be more social. Thus, low levels of extraversion may motivate
 409 individuals to work towards being more agreeable. See Tables 6a-d for correlations between
 410 current personality traits and VPC trait pooled across all samples.

Table 6a

Correlations between current Extraversion (and facets) and VPC to increase Extraversion (and facets)

	VPC Increase Extraversion	VPC Increase Sociability	VPC to Increase Assertiveness	VPC to Increase Energy
Current Extraversion	-.23 [-.29, -.18]	-.22 [-.28, -.17]	-.02 [-.08, .04]	-.03 [-.09, .03]
Current Sociability	-.26 [-.31, -.20]	-.26 [-.31, -.20]	-.03 [-.08, .03]	-.03 [-.09, .03]
Current Assertiveness	-.17 [-.23, -.12]	-.16 [-.21, -.10]	.00 [-.05, .06]	-.05 [-.10, .01]
Current Energy	-.12 [-.18, -.06]	-.11 [-.17, -.06]	-.03 [-.09, .02]	.00 [-.06, .06]
Current Agreeableness	.05 [.00, .11]	.05 [-.01, .11]	-.01 [-.07, .05]	.04 [-.02, .09]
Current Compassion	-.01 [-.07, .04]	-.01 [-.07, .05]	-.01 [-.07, .05]	.02 [-.04, .07]
Current Respect	.10 [.04, .16]	.09 [.03, .15]	-.01 [-.07, .05]	.05 [-.01, .10]
Current Trust	.04 [-.02, .09]	.02 [-.03, .08]	.01 [-.05, .06]	.03 [-.03, .09]
Current Conscientious.	.05 [-.01, .10]	.04 [-.01, .10]	-.01 [-.06, .05]	.02 [-.04, .08]
Current Organization	.06 [.00, .12]	.06 [.00, .12]	.00 [-.06, .06]	.02 [-.04, .07]
Current Productiveness	.00 [-.05, .06]	.00 [-.06, .06]	-.01 [-.07, .04]	.02 [-.04, .07]
Current Responsibility	.05 [-.01, .10]	.04 [-.01, .10]	.00 [-.06, .06]	.02 [-.04, .07]
Current Emotional Stability	-.05 [-.10, .01]	-.02 [-.08, .04]	-.01 [-.07, .05]	-.03 [-.09, .03]
Current Anxiety	-.01 [-.07, .05]	.01 [-.05, .07]	-.02 [-.07, .04]	-.01 [-.07, .04]
Current Depression	.01 [-.05, .06]	.02 [-.04, .07]	.00 [-.06, .06]	-.01 [-.07, .05]
Current Emotional	-.11 [-.16, -.05]	-.08 [-.14, -.02]	-.01 [-.07, .05]	-.05 [-.11, .01]

Note. **Bolded** portion indicated corresponding current trait-VPC trait pairs. $n = 7,863$ (i.e., those who reported an attempt to change their personalities). Due to the high sample size, correlations greater than .06 are significant at the $p < .001$ level.

411

412

Table 6b

Correlations between current Agreeableness (and facets) and VPC to increase Agreeableness (and facets)

	VPC to Increase Agreeableness	VPC to Increase Compassion	VPC to Increase Respect	VPC to Increase Trust
Current Extraversion	.10 [.05, .16]	.06 [.01, .12]	.04 [-.01, .10]	.01 [-.05, .07]
Current Sociability	.10 [.04, .16]	.06 [.00, .12]	.05 [-.01, .11]	.01 [-.05, .07]
Current Assertiveness	.09 [.04, .15]	.04 [.00, .11]	.03 [-.03, .09]	.02 [-.04, .08]
Current Energy	.05 [.00, .11]	.04 [-.02, .10]	.02 [-.04, .08]	.01 [-.06, .05]
Current Agreeableness	-.08 [-.14, -.03]	-.05 [-.01, .01]	-.04 [-.10, .02]	-.04 [-.09, .02]
Current Compassion	-.05 [-.11, .01]	-.04 [-.02, .02]	-.02 [-.08, .03]	-.01 [-.06, .05]
Current Respect	-.09 [-.15, -.03]	-.05 [-.02, .01]	-.05 [-.11, .00]	-.02 [-.08, .04]
Current Trust	-.06 [-.12, -.01]	-.03 [-.02, .02]	-.02 [-.08, .04]	-.06 [-.11, .00]
Current Conscientious.	.04 [-.02, .09]	.04 [-.03, .09]	-.01 [-.06, .05]	.01 [-.05, .07]
Current Organization	.03 [-.03, .09]	.02 [-.04, .08]	-.01 [-.06, .05]	.02 [-.04, .06]
Current Productiveness	.05 [.00, .11]	.06 [-.02, .11]	.00 [-.06, .075]	.01 [-.05, .07]
Current Responsibility	.00 [-.05, .06]	.01 [-.04, .077]	.00 [-.06, .06]	.00 [-.06, .06]
Current Emotional Stability	-.04 [-.09, .02]	-.04 [-.08, .01]	.01 [-.06, .05]	.01 [-.05, .06]
Current Anxiety	-.05 [-.11, .01]	-.05 [-.06, .01]	.01 [-.06, .05]	.00 [-.05, .06]
Current Depression	-.05 [-.11, .01]	-.05 [-.08, .00]	.01 [-.07, .04]	.01 [-.04, .07]
Current Emotional	.01 [-.05, .06]	-.01 [-.06, .05]	.00 [-.05, .06]	.00 [-.06, .06]

Note. Note. Bolded portion indicated corresponding current trait-VPC trait pairs. $n = 7,863$ (i.e., those who reported an attempt to change their personalities). Due to the high sample size, correlations greater than .06 are significant at the $p < .001$ level.

413

414

Table 6c

Correlations between current Conscientiousness (and facets) and VPC to increase Conscientiousness (and facets)

	VPC to Increase Conscien- tiousness	VPC to Increase Organization	VPC to Increase Productiveness	VPC to Increase Responsibility
Current Extraversion	.05 [-.01, .11]	.03 [-.02, .09]	.00 [-.06, .06]	.05 [.00, .11]
Current Sociability	.08 [.03, .14]	.05 [-.01, .11]	.03 [-.03, .09]	.06 [.00, .12]
Current Assertiveness	.02 [-.04, .07]	.02 [-.04, .08]	-.01 [-.07, .05]	.03 [-.03, .09]
Current Energy	.01 [-.05, .06]	.01 [-.05, .07]	-.03 [-.09, .03]	.04 [-.02, .10]
Current Agreeableness	.00 [-.06, .05]	.04 [-.02, .10]	-.03 [-.08, .03]	-.01 [-.06, .05]
Current Compassion	-.03 [-.08, .03]	.03 [-.03, .08]	-.04 [-.10, .02]	-.01 [-.07, .04]
Current Respect	-.04 [-.09, .02]	.02 [-.03, .08]	-.04 [-.10, .02]	-.02 [-.08, .03]
Current Trust	.04 [-.02, .10]	.05 [-.01, .11]	.01 [-.05, .07]	.01 [-.04, .07]
Current Conscientious.	-.16 [-.22, -.11]	-.07 [-.12, -.01]	-.16 [-.21, -.10]	-.02 [-.08, .04]
Current Organization	-.14 [-.20, -.08]	-.08 [-.13, -.02]	-.12 [-.18, -.07]	-.02 [-.08, .04]
Current Productiveness	-.14 [-.20, -.09]	-.05 [-.11, .01]	-.16 [-.21, -.10]	-.01 [-.06, .05]
Current Responsibility	-.11 [-.17, -.06]	-.03 [-.09, .02]	-.10 [-.16, -.05]	-.03 [-.09, .03]
Current Emotional Stability	-.09 [-.15, -.04]	-.05 [-.10, .01]	-.07 [-.13, -.01]	-.04 [-.09, .02]
Current Anxiety	-.09 [-.15, -.04]	-.04 [-.09, .02]	-.07 [-.12, -.01]	-.04 [-.10, .02]

Current Depression	-.09 [-.15, -.03]	-.06 [-.11, .00]	-.05 [-.11, .01]	-.05 [-.10, .01]
Current Emotional	-.06 [-.11, .00]	-.02 [-.08, .04]	-.06 [-.11, .00]	.00 [-.06, .05]

*Note. Note. **Bolded** portion indicated corresponding current trait-VPC trait pairs. $n = 8, n = 7,863$ (i.e., those who reported an attempt to change their personalities). Due to the high sample size, correlations greater than .06 are significant at the $p < .001$ level.*

415

416

Table 6d

Correlations between current Emotional Stability (and facets) and VPC to decrease Negative Emotionality (and facets)

	VPC to Decrease Negative Emotionality	VPC to Decrease Anxiety	VPC to Decrease Depression	VPC to Decrease Emotionality
Current Extraversion	.02 [-.04, .08]	.02 [-.04, .08]	-.04 [-.10, .01]	.06 [.00, .12]
Current Sociability	.02 [-.04, .07]	.01 [-.05, .06]	-.03 [-.09, .03]	.05 [-.01, .11]
Current Assertiveness	.01 [-.05, .07]	.02 [-.04, .07]	-.03 [-.09, .03]	.04 [-.02, .10]
Current Energy	.01 [-.04, .07]	.03 [-.03, .09]	-.05 [-.11, .01]	.06 [.00, .11]
Current Agreeableness	.00 [-.06, .06]	.02 [-.03, .08]	.02 [-.04, .07]	-.03 [-.09, .02]
Current Compassion	.05 [-.01, .11]	.05 [-.01, .11]	.03 [-.03, .09]	.00 [-.06, .06]
Current Respect	.00 [-.06, .05]	.03 [-.03, .08]	.02 [-.03, .08]	-.05 [-.11, .01]
Current Trust	-.03 [-.09, .02]	-.01 [-.07, .05]	-.01 [-.07, .05]	-.02 [-.08, .04]
Current Conscientious.	.04 [-.02, .10]	.06 [.01, .12]	-.02 [-.08, .04]	.02 [-.04, .07]
Current Organization	.02 [-.03, .08]	.06 [.00, .12]	-.03 [-.09, .03]	.00 [-.06, .06]
Current Productiveness	.04 [-.02, .10]	.05 [-.01, .11]	-.03 [-.08, .03]	.04 [-.02, .10]
Current Responsibility	.03 [-.03, .09]	.04 [-.02, .10]	.01 [-.05, .06]	.00 [-.06, .06]
Current Emotional Stability	.19 [.14, .25]	.11 [.06, .17]	.09 [.03, .14]	.09 [.03, .14]
Current Anxiety	.17 [.12, .23]	.15 [.09, .21]	.07 [.01, .12]	.05 [-.01, .11]
Current Depression	.15 [.09, .2]	.07 [.01, .13]	.11 [.05, .17]	.03 [-.03, .09]
Current Emotional	.17 [.11, .22]	.07 [.01, .13]	.04 [-.02, .10]	.14 [.08, .20]

*Note. Note. **Bolded** portion indicated corresponding current trait-VPC trait pairs; $n = 7,863$ (i.e., those who reported an attempt to change their personalities). Due to the high sample size, correlations greater than .06 are significant at the $p < .001$ level.*

417

418 A few notable exceptions were found to the above relationships. In countries such as

419 Slovakia and Germany, attempts to change specific personality traits were unrelated or even

420 slightly positively related to current, corresponding trait levels (see Supplementary Materials on

421 osf.io/enrd4 for these relationships on the country level).

422

Discussion

423 Across 56 countries, 60.40% of college student participants reported that they are
424 currently trying to change an aspect of their personalities. The sheer frequency of this goal
425 around the world is notable in and of itself. Only nine countries had percentages lower than 50%
426 (see Table 3). Nevertheless, there was substantial variation across countries, ranging from
427 81.91% (Thailand) to 21.41% (Kenya), and it is notable that the United States, the site of almost
428 all previous research on this topic, had an unusually low percentage of people seeking to change
429 their personalities (48.53%).

430 To explore the marked variation in VPC across countries, we ran supplementary analyses
431 relating countries' VPC proportion with 35 existing country-level variables (e.g., GDP per
432 capita, population density, individualism; see Supplementary Materials for a description of all
433 country-level variables used in these analyses). We explored this question of country-level
434 indicators predicting country-level VPC by (1) correlating country-level variables and VPC
435 proportion, and (2) running a series of multi-level models predicting individual-level VPC from
436 country-level indicators with accounting for country-level nesting. Of 35 potential correlates,
437 none crossed the $p < .01$ threshold used throughout this study. Of 35 MLM models, only
438 subjective health predicted VPC at the $p < .01$ level indicating that in countries with low
439 subjective health, college students tend to report changing their personality traits, perhaps
440 because cultural-level health serves as a reminder that personal change is warranted.

441 This relative lack of consistent country-level explanation for the variability of VPC may
442 underscore the importance of internal and personal factors (e.g., individuals' happiness) rather
443 than external, country-level economic, social, or value factors in influencing whether someone is

444 trying to change their personalities. See Table 1 of Supplementary Materials located at
445 osf.io/enrd4/).

446 An alternative explanation for country variation in VPC is that mean-level country
447 differences in known correlates of VPC (i.e., subjective happiness, interdependent happiness,
448 negative emotionality, openness) are driving variation in VPC across countries. To explore this
449 possibility, we ran a series of model fit comparisons to test whether country-level differences in
450 the relationships between VPC and happiness, negative emotionality, and openness are
451 accounted for by individual-level relationships. Specifically, we compared models in which
452 mean country-level variables predict VPC with models in which both mean country-level and
453 individual-level variables predict VPC. Results indicate that for all four variables, there were
454 significant model fit comparison indicating that models with both country-level and individual-
455 level predictors fit the data better than those with only country-level predictors. These results
456 suggest that while mean level differences in country-level subjective happiness, for instance,
457 predict VPC, an individuals' level of subjective happiness significantly contributes to this
458 relationship. In other words, country-level variability in VPC is not entirely the bi-product of
459 country mean-level differences in known correlates of VPC. Moreover, for subjective happiness
460 and negative emotionality, there is a significant interaction between mean country-level and
461 individual level factors suggesting that the relationship between subjective happiness and
462 negative emotionality are stronger in countries with higher mean-levels of these variables. These
463 results indicate that unhappy people, for instance, are motivated to change their personalities,
464 especially when people in their cultural context are also unhappy (See Table 2 in the
465 Supplementary Materials located at osf.io/enrd4/).

466 In the majority of countries (39 of 56), female participants reported personality change
467 attempts at a higher rate than their male counterparts. Despite this consistent trend, women were
468 only *significantly* more likely to report personality change attempts in five countries (see Table
469 3). Moreover, men reported change attempts at a higher rate than women in only one country
470 (The Netherlands).

471 Overall, the majority of participants around the world indicated that they were trying to
472 change their personalities, in almost all cases to be either more emotionally stable, conscientious,
473 extraverted or agreeable. Similar to Robinson et al. (2015), increased emotional stability was the
474 most frequently targeted trait across the vast majority of countries. Another internationally
475 consistent finding was that individuals who scored high in traits generally considered
476 maladaptive, such as negative emotionality and its facets anxiety, depression and emotional
477 volatility, and those lower in happiness were more likely to report attempting to change their
478 personality (i.e., answering “yes” to the VPC question). We observed some indication that
479 individuals high in openness (driven by intellectual curiosity) were likely to report attempting
480 personality change, although this relationship varied somewhat across countries, it was relatively
481 small, and thus should be replicated. Putting these findings together, it appears to be that open-
482 minded individuals who think deeply about their own maladaptive traits and difficulties in
483 general well-being may be the ones most likely to make active efforts towards changing their
484 personalities, in an attempt at emotional self-improvement. It might also be the case that
485 individuals high in openness to experience have a predisposition to explore new ways to improve
486 themselves even in the absence of low levels of wellbeing or emotional stability. To test this
487 possibility, we ran a generalized linear-regression model predicting whether individuals report
488 changing *any* trait, from the interaction between negative emotionality and openness. Results

489 from these follow-up analyses reveal that for individuals with higher levels of openness, the
490 relationship between negative emotionality and VPC is stronger relative to those with lower
491 levels of openness ($B = .10, p = .03$). The same pattern was not observed when predicting VPC
492 from the interaction between subjective happiness and openness ($B = .006, p = .83$). It should be
493 noted that the significant interaction effect reported above is relatively small and should be
494 interpreted with caution and replicated in future VPC investigations.

495 While the direction of the relationship between interdependent happiness and VPC was
496 consistent across the vast majority of countries, the strength of the relationships did vary
497 somewhat. For instance, in Australia and Slovenia the relationship between current levels of
498 agreeableness and VPC was strongly positive, in Macedonia and Greece it was strongly negative,
499 and in the majority of countries (e.g., Georgia, Spain, Canada), it was near zero. Likewise, while
500 the average relationship between religiosity and VPC was close to zero, in countries like
501 Macedonia and Latvia, the relationship was strongly negative and in countries like India and the
502 Czech Republic, the relationship was strongly positive. Indeed, in the case with religiosity, there
503 was significant variation across countries in its relationship with VPC. This lack of consistency
504 in the relationship between some individual differences and VPC highlights the cross-cultural
505 variation present in the volitional personality change process and underscores the importance of
506 investigating mechanisms of personality change outside a single country.

507 We next assessed the relationship between current personality traits and *specific*
508 volitional personality change attempts. Conceptually replicating previous research, when all
509 participants were treated as one world sample, current levels of extraversion, conscientiousness
510 and negative emotionality are all strongly related to their corresponding VPC trait attempts. For
511 instance, individuals with low levels of extraversion tended to report that they were currently

512 trying to increase levels of extraversion (primarily driven by attempts to increase levels of
513 sociability). Additionally, with the exception of Emotional Stability, these relationships were
514 driven primarily by one facet, such as sociability for extraversion and productivity for
515 conscientiousness.

516 **Increasing the generalizability of volitional personality change**

517 The greatest contribution of the current study might be its generalization of previously
518 reported correlates of VPC effects outside the US. Specifically, when participants are treated as
519 one world sample, findings from this study overlap considerably from that of previous research
520 conducted in the US (Hudson & Roberts, 2016, Baranski et al. 2017, 2020). However, comparing
521 trends within the US data against other countries illuminates the value of this endeavor. For
522 instance, the US was among the lowest in the percentage of individuals indicating a current
523 attempt to change their personalities. In fact, the United States was one of only seven countries
524 with volitional change percentages below 50%. Moreover, the US was in the top five countries
525 with percentages of attempts to increase extraversion and in bottom ten countries with
526 percentages of attempts to increase emotional stability. Finally, previous research, with samples
527 from the US, has demonstrated the tendency for current levels of agreeableness to be *unrelated*
528 to attempts or desires to increase agreeableness (Baranski et al., 2017; Baranski et al., 2020). In
529 the current study, we again observe this trend in the US, however in over a dozen other countries
530 there was a strong, inverse relationship between current levels and attempts to increase
531 agreeableness. Thus, in several instances, the US is more an exception than the norm, and the
532 disproportionate reliance on US samples in psychological research risks seriously
533 mischaracterizing the mechanisms of VPC among, perhaps, other psychological phenomena.

534 That said, the current research does support the generalization of several other
535 associations with VPC. First and foremost, the majority of individuals in the 56 countries
536 included in the current study indicated that they are currently attempting to change some aspect
537 of their personalities. Most commonly, students are trying to increase emotional stability,
538 extraversion, conscientiousness and agreeableness. Finally, our world sample replicated the trend
539 for individuals to desire or actively attempt to increase the socially desirable traits in which they
540 perceived themselves lacking. Thus, despite differences in traditions, customs, and values, these
541 previously reported correlates of VPC are consistent around the world. Taken together, the
542 current project both cautions against the reliance on strictly US samples in assessing volitional
543 personality change, and successfully generalizes many of the previously reported effects to
544 individuals across 56 countries (see Heine et al., 2006).

545 **Limitations and future directions**

546 The current study is the first to assess VPC in students across dozens of countries around
547 the world. But it is not without its limitations. First and foremost, while participants were
548 sampled from a large number of countries across 6 continents, the relatively small samples sizes
549 within some countries limit the extent to which we can generalize our findings to everyone
550 residing in each country. Thus, we caution readers in over-interpreting between-country
551 differences. Relatedly, all 56 country samples involved college community participants, and
552 most of them female. Importantly, exclusive use of college samples effectively controls for
553 various social and demographic factors and assesses individuals during a particularly
554 transformative time in their lives that may be especially prone to active efforts towards self-
555 improvements. It does, however, also limit the degree to which we can generalize our findings
556 outside educated populations. Moreover, while previous work has found that VPC goals were not

557 impacted by age (Baranski et al., 2017; Hudson & Fraley, 2016), students' self-improvement
558 goals and motivations may be more distinct from adults in some countries compared to others.
559 Future work should assess differences in VPC across various age groups by including
560 community samples across various countries.

561 A second limitation is the scope by which VPC was assessed. Only two questions (e.g.,
562 "Are you currently trying to change an aspect of your personality?", and for those who answered
563 in the affirmative, "What are you trying to change?") measured this complex psychological
564 concept. It might be important, for instance, to know how participants feel about their personality
565 change goal (e.g., Do they think it is attainable? How long have they been working towards
566 accomplishing this goal?), why they are trying to change their personalities, and in what social
567 context their personality change goal is most relevant. Future work should seek to understand
568 country variation in the motivation for and conceptualization of VPC by incorporating deeper
569 assessments. Relatedly, our reliance on yes/no open-ended questions may limit our ability to
570 distinguish the strength of the pursuit towards volitional personality change. Future research
571 should use a combination of open-ended and Likert-type measurements to provide a more
572 comprehensive assessment of volitional personality change, although researchers should be
573 careful in light of known cultural response biases of Likert-type scales Heine et al., 2002,
574 Johnson et al, 2005; Smith et al., 2016).

575 Next, future longitudinal assessments of VPC across countries are important for two
576 reasons. First, while investigations of personality development using longitudinal designs have
577 become relatively common in the US (Roberts & Mroczek, 2008; Roberts et al., 2006; Robins et
578 al., 2001), there are very few studies in which longitudinal assessment is conducted across
579 various countries. Secondly, in the context of understanding more about the individual's active

580 effort towards personality change, it is imperative to assess whether they are more or less
581 successful in their pursuit and whether this success varies across countries. It may be the case,
582 for instance, that particular aspects of one's culture facilitates or impedes progress towards
583 desired personality change. The present study did not find it feasible to seek repeated
584 measurements of the same individuals in 56 countries, but future studies should seek to do so.

585 A final limitation of the current study is its reliance on self-report measures. Self-report
586 measures are useful in tapping the internal qualities of individuals and have relatively low cost.
587 However, future research in VPC should combine self-report methods with measurement tools
588 that assess personality change attempts as they pertain to individuals' observed behavior in
589 everyday life (see Steiner et al., 2020).

590 **General conclusions**

591 Across 56 countries, the similarities in VPC around the world are robust. The majority of
592 college students from the majority of countries indicated that they are currently trying to change
593 their personalities, and their specific attempts are related to traits they currently lack. This
594 widespread motivation underscores what may be a nearly universal human drive towards self-
595 improvement. Furthermore, we are beginning to uncover the personality profile of college
596 students who are actively seeking personality change. Specifically, those students who reported
597 higher levels of negative emotionality, lower happiness and high openness were the most likely
598 to report attempting personality change. College students around the world tended to seek to
599 increase aspects of themselves that they lack. Despite many social, political, and religious
600 differences around the world, the current project suggests that a basic human drive towards
601 adaptive personality change is nearly universal.

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